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long period of hot and dry weather can reduce a tall branching plant, to a low branchless one, and may show under what influences plants may acquire the leafless scapes and radical leaves which are characteristic of so many species.—Jos. F. JAMES, *Cincinnati, Ohio.*

Proterandry in Amaryllis reginæ.—The species here named is now occasionally cultivated from South America as a house plant, for which purpose it possesses many desirable characteristics. The large crimson-red, nodding flowers exhibit proterandry in a manner easily observed. The stamens are in two sets of three each, the outer being somewhat shorter than the inner. They are all nearly straight at first but soon begin to curve upward.

The anthers are versatile, and when first appearing are ¾ of an inch in length. From six to ten hours after the flower opens the dehiscence of the anthers takes place by a gradual splitting open on each side, the valves rolling up so as to hide their external surface completely from view; or in other words the anther is turned inside out. At the same time the valves become fluted like a ruffle thereby shortening the anther so that when the dehiscence is complete the anther is only about 3-16 of an inch long. The dehiscence takes place in the short stamens about four or five hours before it does in the long ones. The pollen is very abundant, forming nearly one-half the bulk of the anther. The styles of the three-celled ovary are united into one, with a three-lobed stigma. During the dehiscence of the anthers the stigma remains closed, and is turned downward away from the anthers, thus preventing any pollen from coming in contact with it. After about twenty-four hours the style curves upwards, and the lobes of the stigma turn back, or open, and are ready to receive the pollen. This, however, must now come from a fresh anther of another flower. From the structure of the flower, and the character of the pollen it is well nigh impossible that the latter could be brought to the stigma by the wind. No doubt, therefore, this Amaryllis in its native region is wholly dependent for its fertilization upon some insect, probably some moth with a long proboscis. To this end a liberal supply of nectar is secreted at the bottom of the perianth.—J. TROOP, *Botanical Laboratory, Ithaca, N. Y.*

Grape Mildew.—In the GAZETTE for March I stated that the conidia of *Peronospora viticola* were not known to occur on the flowers and young berries of the grape in this country. The remark is untrue as far as the Western States is concerned, for in the Transactions of the St. Louis Academy of Science of Sept. 16, 1861, Dr. Engelmann mentions that in Missouri the fungus appears in June, and on the pedicels and young berries when they are of the size of small peas or smaller, although he had never seen it on full grown berries. The early occurrence of the fungus in Missouri